

WHAT IS CLAIMED IS:

1. An imaging system comprising:

infrared ray illuminating means for radiating an infrared ray;

imaging means for taking an image of a place illuminated by the infrared ray illuminating means and converting the image into an electric signal; and

an image processor switchable between an automatic exposure control for continuously and periodically supplying images of same light exposure amount at a predetermined cycle of signal accumulating time of the imaging means and a double exposure control for varying the signal accumulating time of the imaging means at a predetermined cycle and continuously and periodically supplying images of different light exposure amount, wherein

the image processor switches the automatic exposure control and the double exposure control depending on a state of intensity of the image.

2. The imaging system, according to Claim 1, wherein

the image processor switches the automatic exposure control to the double exposure control when a bright area of the image exceeds an intensity threshold as a reference of a bright image and dimensions of the area exceed an area threshold as a reference of switching.

3. The imaging system, according to Claim 1 or 2, wherein

in the double exposure control, the image processor vertically extends the images of different light exposure amount and averages signal levels of the both extended images, thereby forming a composite image.

4. The imaging system, according to Claim 3, wherein the image processor inserts an average value of the signal levels of vertically adjacent pixels between the both pixels, thereby extending the images.

5. The imaging system, according to one of Claims 1 to 4, wherein

the infrared ray illuminating means, the imaging means, and the image processor are provided in a car,

the infrared ray illuminating means illuminates an outside of the car with the infrared ray, and

the imaging means takes an image of the outside of the car.